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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,808	12/01/2003	Wolfgang Gross	2003P11549US01	3679

7590 12/19/2005

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
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EXAMINER	
PHAM, THOMAS K	
ART UNIT	**PAPER NUMBER**
2121	

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,808	GROSS ET AL.	
	Examiner	Art Unit	
	Thomas K. Pham	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

First Action on the Merits

1. Claims 1-20 of U.S. Application 10/724,808 filed on 12/01/2003 are presented for examination.

Quotations of U.S. Code Title 35

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim Rejections - 35 USC § 103

6. Claims 1-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,311,562 ("Palusamy") in view of U.S. Patent No. 6,122,575 ("Schmidt").

Regarding claim 1

Palusamy teaches a method for predictive recognition of errors in a manufacturing system (see title and abstract), said method comprising the steps of:

- monitoring manufacturing system data in real-time (see col. 7 lines 10-16);
- comparing the monitored data with a stored diagnostic data in real-time to predict imminent errors likely to occur in the manufacturing system (see col. 4 lines 8-26).

Palusamy does not specifically teach archiving a plurality of error patterns that previously occurred in the manufacturing system, the archived error patterns created by statistical methods.

However, Schmidt teaches a system that uses previously archived fault patterns data for comparing to the actual collected diagnostic data (see col. 2 lines 48-53) for purpose of improving diagnostic precision and providing a recommendation to correct errors (see col. 4 lines 53-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the fault patterns archiving and comparing of Schmidt with the system of Palusamy because it would provide for purpose of improving diagnostic precision and providing a recommendation to correct errors.

Regarding claim 12

Palusamy teaches a computerized system for predictive recognition of errors in a manufacturing system (see title and abstract), comprising:

- a mechanism for monitoring manufacturing system data in real-time (see col. 7 lines 10-16); and
- a mechanism for comparing the monitored data with a stored diagnostic data in real-time to predict imminent errors likely to occur in the manufacturing system (see col. 4 lines 8-26).

Palusamy does not specifically teach a mechanism for archiving a plurality of error patterns that previously occurred in the manufacturing system, the archived error patterns created by statistical methods.

However, Schmidt teaches a mechanism that uses previously archived fault patterns data for comparing to the actual collected diagnostic data (see col. 2 lines 48-53) for purpose of improving diagnostic precision and providing a recommendation to correct errors (see col. 4 lines 53-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the fault patterns archiving and comparing of Schmidt with the system of Palusamy because it would provide for purpose of improving diagnostic precision and providing a recommendation to correct errors.

Regarding claim 16

Palusamy teaches a device for predictive recognition of errors in a manufacturing system (see title and abstract), comprising:

- a mechanism for monitoring manufacturing system data in real-time (see col. 7 lines 10-16); and

- a mechanism for comparing the monitored data with the archived error patterns in real-time to predict imminent errors likely to occur in the manufacturing system (see col. 4 lines 8-26).

Palusamy does not specifically teach a mechanism for archiving a plurality of error patterns that previously occurred in the manufacturing system, the archived error patterns created by statistical methods.

However, Schmidt teaches a mechanism that uses previously archived fault patterns data for comparing to the actual collected diagnostic data (see col. 2 lines 48-53) for purpose of improving diagnostic precision and providing a recommendation to correct errors (see col. 4 lines 53-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the fault patterns archiving and comparing of Schmidt with the system of Palusamy because it would provide for purpose of improving diagnostic precision and providing a recommendation to correct errors.

Regarding claim 2

Schmidt teaches the archived error pattern containing compressed information (see col. 2 lines 61-67).

Regarding claim 3

Schmidt teaches the compressed information for the archived error patterns is achieved by statistical methods or data mining mechanisms (see col. 2 lines 48-53).

Regarding claims 4 and 13

Schmidt teaches the comparing of the data is performed by data mining mechanisms (see col. 6 lines 51-56).

Regarding claims 5 and 14

Schmidt teaches the archived error patterns are automatically built by the monitored data using statistical methods or data mining mechanisms (see col. 6 lines 51-56).

Regarding claims 6 and 15

Palusamy teaches the monitored data are pre-specified data (see col. 4 lines 11-15).

Regarding claim 7

Palusamy teaches the pre-specified data are minimized using structural information of the manufacturing system (see col. 5 lines 47-53).

Regarding claim 8

Palusamy teaches storing the monitored data in a ring-puffer (see col. 6 lines 46-53).

Regarding claim 9

Palusamy teaches the monitored data are automatically read out components of the manufacturing system (see col. 5 lines 14-22).

Regarding claim 10

Palusamy teaches triggering corrective actions (see col. 7 lines 10-27).

Regarding claim 11

Palusamy teaches the method is adapted for discrete or continuous or batch processes (see col. 6 lines 1-7).

Regarding claim 17

Palusamy teaches the device is a dedicated unit in a manufacturing environment (see col. 1 lines 7-20).

Regarding claim 19

Schmidt teaches the device is a field device (see col. 1 lines 9-16, "for use with aircraft engine").

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palusamy in view of Schmidt and further in view of U.S. Patent No. 6,487,404 ("Kransmo").

Regarding claim 18

Palusamy and Schmidt do not specifically teach the device is a decentral net component.

However, Kransmo teaches a device for detecting radio network trends in a telecommunications network (see col. 2 lines 43-48) for the purpose of optimizing, maintenance and troubleshooting of the networks (see col. 2 lines 38-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the network component of Kransmo with the system of Palusamy because it would provide for the purpose of optimizing, maintenance and troubleshooting of the networks.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palusamy in view of Schmidt and further in view of U.S. Patent No 6,636,842 ("Zambrano").

Regarding claim 20

Palusamy and Schmidt do not specifically teach the device is a PLC.

However, Zambrano teaches a device uses in an industrial processing environment (which include a PLC) for predicting a future expected state of a process using the behavior model and current process trajectory (see col. 2 lines 51-65) for the purpose of allowing for early detection of and reaction to abnormal process situations (see col. 1 lines 38-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate to incorporate the device of Zambrano with the system of Palusamy because it would provide for the purpose of allowing for early detection of and reaction to abnormal process situations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday - Thursday from 6:30 AM - 5:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Any response to this office action should be mailed to: **Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.** Responses may also be faxed to the **official fax number (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas Pham
Patent Examiner

December 12, 2005